CLAIMS

I claim:

1. A method comprising:

receiving a single hardware I/O control block by a host adapter integrated circuit wherein said host adapter integrated circuit interfaces two I/O buses and further wherein said single hardware I/O control block specifies a write data transaction for a first data storage device; and

analyzing said single hardware I/O control block by said host adapter integrated circuit to determine whether information in said single hardware I/O control block specifies a mirrored write data transaction for a second data storage device.

2. The method of Claim 1 wherein said analyzing said single hardware I/O control block further comprises:

determining, by said host adapter integrated circuit, whether an entry in a first mirror hardware I/O control block field of said single hardware I/O control block is valid.

3. The method of Claim 2 further comprising:

generating, by said host adapter integrated circuit, a second hardware I/O control block upon determining said entry in said first mirror hardware I/O control block field is valid wherein said second hardware I/O control block specifies said mirrored write data transaction for said second data storage device.

4. The method of Claim 3 further comprising:

executing said first hardware I/O control block and said second hardware I/O control block independently by said host adapter integrated circuit.

5. The method of Claim 4 further comprising:

posting as complete only a last of said first and second hardware I/O control blocks to complete executing.

6. The method of Claim 2 further comprising:

executing said first hardware I/O control block by said host adapter integrated circuit as a non-mirrored write data transaction upon determining said entry in said first mirror hardware I/O control block field is invalid.

7. A method comprising:

receiving a single hardware I/O control block by a host adapter integrated circuit wherein said single hardware I/O control block specifies a write data operation for a first data storage device and includes a sister hardware I/O control block field; and

generating another hardware I/O control block by said host adapter integrated circuit upon said sister hardware I/O control block field containing a valid hardware I/O control block identification number wherein said another hardware I/O control block specifies said write data operation for a second data storage device so that said write data transaction is mirrored.

8. The method of Claim 7 wherein said valid hardware I/O control block identification number is a

pointer to a storage site in an array of hardware I/O control block storage sites.

9. The method of Claim 7 further comprising:

placing a hardware I/O control block identification number of said single hardware I/O control block in a sister hardware I/O control block field of said another hardware I/O control block.

10. The method of Claim 7 wherein said another hardware I/O control block includes a sister hardware I/O control block field, and said method further comprises:

placing a null hardware I/O control block identification number in said sister hardware I/O control block field of said single hardware I/O control block upon completion of execution of said another hardware I/O control block prior to completion of execution of said single hardware I/O control block.

11. The method of Claim 7 wherein said another hardware I/O control block includes a sister hardware I/O control block field, and said method further comprises:

placing a null hardware I/O control block identification number in said sister hardware I/O control block field of said another hardware I/O control block upon completion of execution of said single hardware I/O control block prior to completion of execution of said another hardware I/O control block.

12. The method of Claim 7 further comprising:

reporting completion of execution of only one of said single hardware I/O control block and said another hardware I/O control block.

13. The method of Claim 7 further comprising:

reporting completion of execution of said single hardware I/O control block only if said sister hardware I/O control block field of said single hardware I/O control block contains a predefined value.

14. The method of Claim 7 further comprising:

reporting completion of execution of said another hardware I/O control block only if said sister hardware I/O control block field of said another hardware I/O control block contains a predefined value.

15. A method comprising:

receiving a single hardware I/O control block by a host adapter integrated circuit wherein said single hardware I/O control block specifies a write data operation for a first data storage device and includes a sister hardware I/O control block field;

generating another hardware I/O control block by said host adapter integrated circuit upon said sister hardware I/O control block field containing a valid hardware I/O control block identification number wherein said another hardware I/O control block specifies said write data operation for a second data storage device so that said write data transaction is mirrored;

placing a hardware I/O control block identification number of said single hardware I/O control block in a sister hardware I/O control

block field of said another hardware I/O control block;

placing a null hardware I/O control block identification number in said sister hardware I/O control block field of one of said single hardware I/O control block and another hardware I/O control block upon completion of execution of a different one of said single hardware I/O control block and said another hardware I/O control block wherein said different one is a first to complete execution; and

reporting completion of execution of only one of said single hardware I/O control block and said another hardware I/O control block.

16. A structure comprising:

a memory containing processor instructions for a host adapter mirroring process, wherein upon execution of said processor instructions said host adapter mirroring process comprises:

receiving a single hardware I/O control block by a host adapter integrated circuit wherein said host adapter integrated circuit interfaces two I/O buses and further wherein said single hardware I/O control block specifies a write data transaction for a first data storage device; and

analyzing said single hardware I/O control block by said host adapter integrated circuit to determine whether information in said single hardware I/O control block specifies a mirrored write data transaction for a second data storage device.

17. A structure comprising:

a memory containing processor instructions for a host adapter mirroring process, wherein upon execution of said processor instructions said host adapter mirroring process comprises:

receiving a single hardware I/O control block by a host adapter integrated circuit wherein said single hardware I/O control block specifies a write data operation for a first data storage device and includes a sister hardware I/O control block field; and

generating another hardware I/O control block by said host adapter integrated circuit upon said sister hardware I/O control block field containing a valid hardware I/O control block identification number wherein said another hardware I/O control block specifies said write data operation for a second data storage device so that said write data transaction is mirrored.

18. A hardware I/O control block structure stored in a memory, said hardware I/O control block structure comprising:

a sister hardware I/O control block field; and

a target identification field.

19. The hardware I/O control block structure stored in a memory as in Claim 18 wherein said hardware I/O control block structure is one of a plurality of hardware I/O control block structures in said memory.

20. A hardware I/O control block memory array comprising:

a first hardware I/O control block having a sister hardware I/O control block field; and

a second hardware I/O control block having a sister hardware I/O control block field wherein said sister hardware I/O control block field of said first hardware I/O control block includes a pointer to said second hardware I/O control block and said sister hardware I/O control block field of said second hardware I/O control block includes a pointer to said first hardware I/O control block.

21. A method comprising:

using, in a host system, a single hardware I/O command block structure for both non-mirrored and mirrored transactions for a plurality of storage devices coupled to said host system by a host adapter;

setting a mirror field in said single hardware I/O command block structure to a valid value for a mirrored transaction; and

setting said mirror field in said single hardware I/O command block structure to an invalid value for a non-mirrored transaction.